two cases seen by the writer—one, a girl of six years, at the dispensary in the spring of 1885; the other, a boy of two years, in the practice of Dr. McNaughton—this form is somewhat distinctive in character. At first all the voluntary muscles below the head, except the respiratory, were involved. Improvement began in a few weeks, and went on to entire recovery in from one to two years.

(*e*) Hysterical cases of this type must be very rare in American children at least. S. P. Denhope (*Cincinnati Med. Journ*, Nov., 1890, p. 366–9) gives a case of hysterical paraplegia in a German girl of twelve years.

(*f*) Incipient paraplegia from Pott's disease should be carefully excluded.

(*g*) Syphilitic or osteo-chondritic pseudo-paralysis, often called Parrot's disease, is apt to attack but one extremity, whether a lower or an upper, at a time. It has been described in this country by Van Harlingen and others.

(*h*) Infantile spastic paraplegia (of Osler, Fergusson, and others) cerebral in origin.

It is certainly of the greatest moment, for practitioner and patient, to recognize the difference between the essentially functional and the tedious organic paralyses of childhood. Though relatively rare, these lighter forms are nevertheless worthy of further study and fuller recognition. Treatment follows from the diagnosis; and the prognosis also, usually excellent, depends on the primary trouble.

THE DIAGNOSIS OF POTT'S DISEASE.[1]

By Robert W. Lovett, M.D.,
of Boston.

In considering the question of the diagnosis of Pott's disease, one must start with the assumption that the *history* is of little or no value in establishing the presence of the disease. It may be significant enough to make one suspect very strongly the existence of vertebral disease; but without definite physical signs, it can never be positive enough to justify the diagnosis of Pott's disease. With this understanding, it may be asserted that particularly significant symptoms are paroxysmal pain in the chest or abdomen, which is aggravated by jarring or movement; and pain coming on at night when the child is first falling to sleep (significant as the well-known night-cries, simulating very closely those of hip disease). Other symptoms which should excite suspicion are: tiring easily, leaning on tables and chairs, carrying the chin in the hand, and supporting the weight of the trunk by placing the hands upon the knees. These symptoms should all be considered significant and suggestive, but it may be said once more that they cannot be considered, in the absence of physical signs, as establishing the diagnosis of Pott's disease. Such a history should be allowed especial significance when it occurs in the children of tuberculous parents, or when it follows some months after the exanthemata, or comes on as the remote result of a fall which has injured the spine. It should be mentioned that the absence of pain can in no way be assumed to show the absence of Pott's disease.

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[1] Read by title before the American Orthopædic Association at Washington, September 23, 1891.

The diagnosis, then, must be made wholly from the *physical examination*, and the chief physical signs upon which one must rely can be divided into two classes: (*a*) those occurring from bony destruction, and (*b*) those dependent upon muscular spasm.

(*a*) *Signs Due to Bony Destruction.*

Since these are made evident by the presence of angular deformity of the spine, which is the result of bony destruction, they are so conspicuous that they can scarcely be overlooked. And the prominence of one or more of the vertebral bodies, associated with muscular spasm, is a positive sign of the presence of the disease, unless it is the result of a fracture of the spine, or in adults the outcome of malignant disease. In the larger number of cases, as they come to the surgeon, this bony deformity has occurred, and the diagnosis can be made at a glance; but the most important class of cases, so far as the diagnosis is concerned, are those where bony destruction has not yet begun, and where the need of an early diagnosis is evident, in the hope that it may lead to treatment which may be sufficient to prevent the occurrence of deformity.

(*b*) *Signs Arising from Muscular Spasm.*

These are:

1. Stiffness of the spine in walking and in passive manipulation.
2. Peculiarity of gait and attitudes assumed, according to the location of the disease.
3. Lateral deviation of the spine.
4. High temperature.

Of the two latter it may be said that they do not receive general recognition as diagnostic symptoms, hence the writer feels inclined particularly to call attention to their importance.

Lateral[1] deviation of the spine he believes to be practically a universal sign in Pott's disease,[1] and high temperature as a constant accompaniment of active tuberculous joint disease has been already discussed at length. Further experience has only served to confirm, in his opinion, the value of these two signs.

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[1] R. W. Lovett: Boston Med. and Surg. Journal, October 9, 1890.

1. MUSCULAR STIFFNESS.—On examining for muscular stiffness of the spine, the child is most conveniently laid face downward on a table or bed, and lifted by the feet. In a normal back the lumbar spine can be markedly flexed, and a general mobility is seen of the whole column. In patients where Pott's disease is present the region affected is held rigidly by muscular contraction when manipulation is attempted. In certain instances the erector spinæ muscles stand out like cords when the child is lifted, and it is questionable how much importance should be attributed to this sign. After having depended much upon it, the writer has come to the belief that it is not a sign of Pott's disease, and that it occurs in cases of hip disease, and in certain instances in excitable children where no joint disease is present. Lifting the patient by the feet in this way is practically sure to show the existence of lumbar or lower dorsal rigidity; but it does not detect high dorsal Pott's disease. In lumbar Pott's disease lateral mobility of the spine, as well as antero-posterior flexibility, is lost.

2. PECULIAR GAIT AND ATTITUDES.—In considering the gait as a diagnostic symptom of Pott's disease, one must be prepared to find any or all the characteristic features absent. In general the walk is careful, steady, and military, and the steps taken with such care that jars to the spine are avoided; in other instances, however, the child walks with comparative freedom, even when the presence of the disease is manifest, and the well-known test of having the child pick up objects from the floor may fail to detect anything. It is only necessary to allude to the fact that these symptoms, usually assumed as characteristic, may be practically absent in clearly marked cases of Pott's disease.

Assuming, then, the extreme importance of the early diagnosis of the disease where practicable, it becomes necessary to consider in detail the general and local physical signs, according to the region of the spine affected.

Cervical Pott's Disease.—The most common symptom of the disease in this region, due to muscular rigidity, is the occurrence of wry-neck with stiffness of the muscles of the back and neck. This is often accompanied by distressed breathing at night, and intense occipital neuralgia. The head is held sometimes in a very much distorted position, and the most characteristic attitude is when the chin is supported in the hand; and when the patient turns sideways to look at objects, the whole body is turned. In severe cases one notices flattening of the back of the neck, with sometimes bony deformity. When spinal caries occurs in this region the early symptoms are most often confused with sprains, muscular torticollis, and inflammation of the cervical lymphatic glands.

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[1] Ibid., April 17, 1890.

From sprains the diagnosis is almost impossible. In the early stages of sprains of the neck the head is often held stiffly and to one side; motion is resisted and is painful, muscular spasm is present, and in the case of children of unintelligent parents the history cannot be accepted as valid. The writer has in mind a case which presented every symptom of Pott's disease in this region, where two weeks in bed cured all the symptoms, and the recovery has been permanent.

From true muscular wry-neck the diagnosis is often extremely difficult. In true torticollis manipulation is generally not painful, and one muscle is firmly contracted while the rest are relaxed. In congenital cases the head and face are distorted, and the eyes often are not upon the same plane. In Pott's disease, on the other hand, the muscular fixation involves all the muscles, and movement in any direction is resisted. It is more apt to be painful, and in most cases comes on with considerable rapidity. This applies fairly well to cases of anterior wry-neck; but in cases where the true muscular torticollis is of the posterior variety, and is due to a contraction of the deeper muscles, the diagnosis is much more difficult, for no one muscle is contracted, and movement is limited by a general muscular resistance. The writer has in mind certain cases where the diagnosis has been impossible, and some in which an operation of tenotomy has been performed in cases of Pott's disease where a most careful examination had seemed to establish the diagnosis of true muscular wry-neck.

In these obscure cases the differential diagnosis is extremely difficult, and can be most easily made by putting the patient to bed and seeing if the application of the extension is sufficient to overcome the distortion, as it will do in the course of a few days if due to Pott's disease. It is in this class of cases that the writer would particularly insist upon the value of high temperature as pointing to the presence of Pott's disease.

Inflammation of the lymphatic glands of the neck is likely to give rise to a position of the head simulating wry-neck, associated with muscular spasm. These cases simulate Pott's disease very closely, and in two cases under the writer's observation recently the diagnosis has been impossible until the inflammation of the glands was subdued, and it was found that the head again became perfectly movable. In these cases it was impossible to determine whether the inflammation of the glands was secondary to the Pott's disease, or the muscular spasm was the result of the adenitis.

Upper Dorsal Pott's Disease.—In this region detection is the most easy because any bony destruction at once results in angular deformity, on account of the posterior curve of the spine in this part, and it is on this deformity that one must depend rather than on symptoms due to muscular stiffness.

The shoulders are, however, held high and squarely, the gait is military and careful, and lateral deviation is almost certainly present. In dorsal Pott's disease, paralysis may exceptionally be the first perceptible symptom.

The two affections with which dorsal Pott's disease is most likely to be confused are scoliosis and round shoulders. From rotary lateral curvature the distinction may be difficult in cases where the kyphosis is rounded and involves several vertebræ. The fact that lateral deviation of the spine is so constantly associated with Pott's disease is another factor in making the distinction more difficult.

In a case recently under the care of Dr. Bradford and the writer, for some weeks it was impossible to make a diagnosis between scoliosis and vertebral disease, in the case of a girl twelve years of age, and it must come to the mind of everyone under whose observation these cases come that there are certain cases where a distinction between the two is extremely difficult. As a rule, this is in very early cases, but in the case just alluded to the disease had been in progress for many years.

Here, again, the writer would call attention to the importance of high temperature as pointing to the presence of Pott's disease.

From round shoulders, Pott's disease is generally to be distinguished by the fact that in the former the spine is flexible, and the deformity rounded and not angular. In some cases of round shoulders, however, where the affection is of long standing, the curvature is more or less fixed, and pain may also be present, so that the resemblance to Pott's disease is marked; but these cases are uncommon, and the distinction is generally easily made.

Lumbar Pott's Disease.—Vertebral caries in this region of the spine is difficult of detection on account of the anterior curve of the spine in the lumbar region, so that in any moderate amount of destruction of the lumbar vertebral bodies no posterior angular curvature is developed, and it is only in the later stages of the disease that any angularity becomes prominent. The occurrence of deformity is preceded by a flattening of the lumbar curve, which is characteristic and very significant. The attitude is that of lordosis, which in some cases becomes very marked; the gait is military and careful, and lateral deviation is always present, sometimes to a very marked degree. It is in this region of the spine that it is most conspicuous.

In using the ordinary tests to detect the disease in this region one is liable to be deceived by the readiness with which some children can bend the spine in picking up objects from the ground when lumbar Pott's disease is markedly present. This is due to an increased flexibility of the upper part of the spine. In many instances of lumbar Pott's disease the first noticeable symptom is a limp which is due to unilateral psoas contraction, the result perhaps of abscess, or perhaps only of psoas irritability, and psoas contraction must be set down as one of the common symptoms of lumbar Pott's disease. If the child is laid on its face and an attempt is made to flex the lumbar spine, it is found to be entirely rigid, and any attempt to hyperextend the leg in this position leads to the detection of the slightest psoas irritability.

Lumbar Pott's disease is most liable to be confused with single or double hip disease, with rhachitic curvature of the spine, and with primary inflammation of the psoas muscle.

The differential diagnosis between lumbar Pott's disease and hip disease is one which the writer often finds extremely difficult, although it is not generally considered so; but a long series of mistakes made by other surgeons, as well as by himself, have led him to consider the diagnosis as one which should be made with very great care. In general, when the hip symptoms are due to Pott's disease, and the joint symptoms are caused by psoas irritability, the restriction of motion in the hip is simply in the loss of hyperextension; while abduction and internal rotation are free and not affected. This limitation of motion in only one direction is generally sufficient, in connection with the other symptoms, to establish the presence of Pott's disease. On the other hand, in some cases the limitation of the hip's motion is in all directions, and simulates very closely the limitation of true hip disease.

In a case of lumbar Pott's disease, which had been for some years under the writer's observation, suddenly a complete limitation of all the motions of the right hip occurred, and it seemed as if hip disease must be present. The child was kept quiet, and in the course of a few weeks the symptoms entirely disappeared, leaving the hip perfectly well, and in the whole time there never was any evidence of psoas abscess. The child in the last two years has been free from all hip symptoms. This case simply serves as a type of several which have occurred under the writer's observation where psoas irritability very closely simulated true hip disease.

Another element which leads to the confusion of the two affections is the rigidity of the lumbar spine which often occurs as an accompaniment of acute hip disease. If a child with hip disease is laid upon its face, and an attempt made to flex the lumbar spine by lifting the feet from the table, the irritability of all the muscles is so great that often the lumbar spine will appear to be completely rigid, and only a very careful examination will show that this is secondary to the hip disease.

Rhachitic deformity of the spine is a posterior curvature often so sharp as to be angular. It occurs at the junction of the dorsal and the lumbar regions. This junction is also the most frequent site of Pott's disease.

Rhachitic curvature of the spine is characterized not so much by muscular spasm as by persistent stiffness in most cases, so that if the child is laid upon its face, and an attempt is made to flex the spine, the curve is not obliterated. The symptoms, therefore, are the same that would be presented by Pott's disease occurring under the same conditions, and much dependence must be placed upon the coexistence of rickets.

In general, a posterior curvature of the spine in young children is much more apt to be rhachitic, but it may simulate Pott's disease so closely that a diagnosis is impossible. It has been the writer's custom to treat all such cases by rest in bed or on a frame, with the experience that in nearly every instance where the general signs of rickets were present, complete mobility was restored to the back within the course of a few months.

Primary inflammation of the psoas muscle would simulate lumbar Pott's disease, accompanied by psoas abscess, so closely that a distinction between the two might be difficult. There would, however, be no symptoms of flattening of the lumbar curve of the spine. There would probably be, however, some stiffness of the lumbar spine in making the ordinary tests, and lordosis would be present to a certain extent. Primary inflammation of the muscle, however, is very rare, and its existence should lead to the suspicion of Pott's disease, and the only distinction that could be made would be the absence of bony change, and a greater flexibility of the lumbar spine where only the muscle was involved. In most cases, however, it would be safer to assume that lumbar Pott's disease was present, and fortunately the treatment of the two affections would be identical.

Pain. A word should be said with regard to the significance of pain as a diagnostic symptom in Pott's disease. In most cases it is referred to the terminal part of the spinal nerves, and the pain is most often complained of in the front of the chest, and in the abdomen, where it often passes for stomach-ache. In other instances severe pain is felt in the legs where the disease is low down, and in cervical disease it takes the form often of a severe occipital neuralgia; but the absence of pain, as has been said, is not to be taken as evidence of the absence of the disease. Pott's disease is in general more often accompanied by pain than hip disease, for example; but, on the other hand, certain cases pass from the earliest to the latest stages with little or no pain, and the former diagnostic tests of lifting the child suddenly, making pressure upon the head and the like, can be set down as not only harmful, but entirely useless.

The same may be said with regard to tenderness over the spine, which is often assumed to be a diagnostic symptom. It is in most cases absent, and if it is present it shows nothing, and is of no diagnostic importance whatever. On the other hand, the occurrence of persistent abdominal or chest pain in a child is a symptom which should be allowed more weight than it ordinarily receives in the hands of the family physician, and although it is in no way a diagnostic symptom of Pott's disease, yet it is so often due to that affection that its presence should lead to a very careful examination to detect, if possible, the early stages of the disease.

3. LATERAL DEVIATION OF THE SPINE.—The writer believes that a noticeable amount of lateral deviation of the spine is an early symptom of the existence of Pott's disease, and occurs in practically all cases of dorsal or lumbar disease. It is a symptom due to muscular spasm, and is early rectified by treatment. In cervical disease it is often present, although it cannot be set down as a uniform accompaniment of the disease in this situation.

4. HIGH TEMPERATURE.—In a large series of observations relating to Pott's disease in the acute stages it has been the writer's experience that a high evening temperature is almost uniformly present, and that it occurs independently of abscess formation, and is no higher in cases of abscess than in cases without abscess. The rise of temperature is from one to three degrees, and in general it can be accepted as indicating roughly the degree of severity of the disease.

The Diagnosis of Abscess.—The diagnosis of abscess in Pott's disease rarely presents any difficulty, but in certain instances their occurrence is attended with peculiar symptoms which may give rise to some obscurity. In the cervical region the most common seat of abscess formation is in the back wall of the pharynx, where it often persists for some time unrecognized, giving rise to a peculiar series of respiratory symptoms. The pharyngeal wall is pushed forward, and the child breathes at night with a peculiar snoring respiration, which is to a certain extent characteristic. There is some difficulty in swallowing food; the pain is apt to be severe; and occasionally a swelling extends so much to the side as to be noticeable at the sides of the neck. The finger introduced into the mouth comes upon a projecting swelling of the back of the pharynx, which is characteristic and not to be mistaken.

In the dorsal and lumbar region the abscesses point for the most part in the loin, or follow down the course of the psoas muscle to appear in the upper part of the thigh or groin. Appearing in the back the abscess is not likely to be mistaken for anything unless for a cellular abscess of the back muscles, which is not an uncommon occurrence in young children.

Appearing in the groin the abscess may be mistaken for hernia which it sometimes resembles rather closely, and gives a certain obscure impulse on coughing; but it is irreducible and the part of the psoas muscle within the abdomen can be felt to be enlarged and resistant. Psoas contraction is present, which causes flexion of the leg. Psoas abscess due to Pott's disease cannot be distinguished from psoas abscess due to other causes except by the presence or absence of the diagnostic signs of Pott's disease.

The Diagnosis of Paralysis.—Paralysis in Pott's disease, although ordinarily one of the later symptoms, may occasionally precede the deformity, and be the first sign of the presence of vertebral disease. Such cases are not so rare that they should be overlooked. The occurrence of myelitis in a young child should be considered as extremely suspicious, and as being more likely to be due to Pott's disease than to any other cause, even if the signs of vertebral disease are obscure or apparently absent. In general the paralysis is preceded by a stage of the disease in which this pain is much increased, and this pain may be paroxysmal or steady.

The first thing noted generally in the paralysis is a tendency to tire easily, and to hit the toes in walking. A disability to use the legs much and a staggering gait follow this very closely, and along with it is often a jerking and twitching of the legs at night, with an occasional cramp of the muscles. When such paralysis occurs in connection with disease of the cervical and dorsal regions, the patella reflexes are much increased and ankle clonus is present to a marked degree. In disease of the lumbar region, however, the pressure may be upon the cord below the reflex centres of the cord, and the patella reflex may be absent as well as the ankle clonus. The paralysis is generally one of motion only, but in severer cases sensation is impaired or lost. The paralysis may be either a slight disability or a complete loss of power, and its general diagnostic symptoms are those of myelitis.

A CASE OF PEMPHIGUS FOLIACEUS ENDING FATALLY WITHIN EIGHT MONTHS.

By Hermann G. Klotz, M.D.,
of New York.

The history of the following case of pemphigus chronicus vulgaris, turning into pemphigus foliaceus and ending fatally within about eight months, has been taken from my notes, principally at the suggestion of my friend, Dr. J. W. Gleitsmann, Professor of Laryngology in the New York Polyclinic, on account of its bearing on the incidental affections of the oral cavity and the larynx. Dr. Gleitsmann having abandoned the idea of writing a paper on the subject, the case, I believe, is of interest enough in itself to justify its publication, since only very few cases of pemphigus foliaceus have been recorded in this country, those of Dr. Sherwell, of Brooklyn, and of Dr. Graham, of Toronto, Canada, men-